

## Article in Canadian physics journal put academic integrity on trial

Patricia Huston, MD, MPH

What happens when a chemistry professor asserts that university students brought up by working mothers are at increased risk of being intellectually dishonest and sexually irresponsible, and is allowed to publish his "sociological theory" in a prestigious Canadian journal?

### The facts

Gordon Freeman, PhD, of the University of Alberta was guest editor for the September 1990 issue of the *Canadian Journal of Physics* (CJP), which dealt with an interdisciplinary conference on chaos theory.<sup>1</sup> He asserted that his theory about the negative impact working women have had on society is an example of chaos theory as it applies to the study of human society. He told Ralph Nicholls, PhD, then CJP editor, that he had presented his theory at the conference, making it eligible for inclusion in the journal. Nicholls said the article received a favourable peer review and he agreed to publish it.

Its publication was greeted with quiet astonishment, consternation, confusion, chuckles and letters of outrage and support. Eventually Freeman was asked to retract the article, and refused.

CJP is a National Research Council (NRC) publication and Bruce Dancik, PhD, editor-in-chief of all NRC journals, asked Nicholls to retract the article, and he too refused. Dancik asked Nicholls to show him the peer review of the article; Nicholls declined, and was replaced as editor.

The issue gained national publicity when Morris Wolfe, a *Globe and Mail* columnist, discovered a letter by Freeman stating: "It is a bitter truth that Mark Lepine's desperate act [the murder of 14 female engineering students at Montreal's École Polytechnique on Dec. 6, 1989] was an extreme example of the damage that feminists do to their children." Freeman then urged people to read his article in the CJP (*McGill News*, Spring 1991: 32).

"Why," Wolfe asked, "does a scholarly journal publish prejudice passed off as science?" (*Globe and Mail*, July 18, 1991: A8).

Dancik wrote a formal apology to readers in the June 1991 issue of CJP.<sup>2</sup> Unfortunately, it was in an unpaginated section of the journal and this precluded "linking" of the apology with the article on electronic data bases. In the meantime, Freeman continued his teaching duties. With reprints of his article in hand, he actively solicited public speaking engagements.

A US journal, *Science*, got

wind of the Freeman affair and published an article, "Canadian chemist takes on working women".<sup>3</sup> Suddenly, the issue was piquing international interest.

As the article continued to receive publicity (*Globe and Mail*, Apr. 28, 1992: C1), the NRC agonized about how it could best "purge" itself of the controversy. It considered devoting a supplementary issue to a critique of the Freeman article; articles were solicited and received, but no supplement appeared.

In the end, NRC officials responded by hosting a symposium on ethics and scholarly publishing. The February 1993 symposium, held in Toronto, was not billed specifically as an examination of the Freeman case. Rather, it was described as an opportunity for authors, editors, publishers and representatives of academic institutions to discuss their roles and responsibilities in light of a general increase in misconduct by scholars.

Prominent Canadian and American speakers questioned whether cases of misconduct are handled appropriately. Freeman was foremost in everybody's minds, and was mentioned frequently. According to Lorna Marsden, a former senator and current president of Wilfrid Laurier University in Waterloo, Ont., the analysis of what happened in the Freeman case was "both painful and fascinating."

Patricia Huston is CMAJ's associate editor-in-chief.

## The analysis

How could a scientist put forward as irrational and sexist a theory as Freeman did? It appears he believes in his theory, and thought he was exercising academic freedom by promulgating it.

Rose Sheinin, vice-rector (academic) at Concordia University in Montreal and chairperson of the Royal Society of Canada's Committee for the Advancement of Women, said Freeman's theory was not based on a proven research method, and he has no recognized expertise in sociology, the field to which his report applied. His "study" was never submitted to an ethics review board. "When integrity is breached," Sheinin concluded, "it is a betrayal of academic freedom."

Nicholls was widely condemned during the meeting because he had failed to fulfil his "gatekeeper's role." However, Dr. Bruce Squires, *CMAJ's* editor-in-chief, pointed out that many editors have no formal training in editing and are seriously uninformed about their ethical and legal responsibilities.

Dr. Cannie Stark-Adamec, a social psychologist from the University of Regina and the symposium's moderator, commented on the general lack of awareness about ethical issues. "Ethics is assumed to come naturally," she said, "or is considered to be the role of ethics committees."

Was this incident a failure of the peer review process? Dr. Ursula Franklin, a physicist and fellow of the Royal Society, pointed out that the peer review process has potential flaws. It wasn't established that Freeman's paper received a proper review. The editor claimed he sent it to one reviewer, but was the reviewer a sociologist specializing in the field of student behaviour or adolescent sexuality? Proper peer review, in fact, might have prevented publication by casting serious doubt on the arti-

cle's validity and appropriateness.

What was the publisher's responsibility? The NRC's Dancik described his initial sense of "outrage and offense" upon reading the article. Yet when asked why the supplementary issue was never published, Clive Willis, the NRC's vice-president of science, said: "It seems a little late now." Symposium participants speculated that the NRC may have feared legal reprisal, or simply wanted the Freeman case forgotten.

What was the media's role? Coverage of the event called into question scientists' accountability. Wolfe commented on their "fractured response" to the Freeman article. While one camp wanted something to be done, the other camp wanted everyone to "shut up and let it go away."

Princeton University's Dr. Patricia Woolf, an internationally recognized expert in the field of scientific misconduct, suggested that the case exemplified the incapacity of scientists to respond appropriately to misconduct. This happens, she said, because the "dissemination of scientific knowledge is loosely managed and virtually unregulated."

When there is a lack of policies and procedures, said Marsden, people rely on social pres-

sure, and it can be brought to bear only when there are common values. The Freeman case, she concluded, identified the lack of common values within the scientific community, as exemplified by the "enormous misunderstanding in gender relations."

Why did no one "blow the whistle" about the Freeman article? "Whistle-blowers are vilified," said Dr. Mary Guinan, former assistant director for science at the Centers for Disease Control in Atlanta. She discussed several cases in which scientists who had questioned the actions of colleagues ended up wishing they had done nothing.

What does the publication of the Freeman paper say about science and society? In science, as in politics and the marketplace, we live in an era of "pervasive misrepresentation," said Woolf, an era when competitiveness encourages a "creative bending of rules."

Arthur Schafer, an ethicist at the University of Manitoba, asserted that academic inquiry has shifted from "curiosity-driven research to market-driven research." Market forces encourage rule bending because it may provide a competitive edge. However, in bending the rules and creating a competitive climate, shared values are lost and scholarly bonds unravel.

Is there a "market" for sexism in science? Lee Lorch, a professor at York University, Toronto, and a Royal Society member, believes there is. "Scientists have to distinguish between fraud and ideologically driven fraud," he said. The latter "is motivated not by the self-interests of a single author, but by the desire to promote a sexist or racist agenda." Ideological fraud is a growth industry, he maintained, and is used to fuel the backlash against affirmative-action programs and liberal immigration policies.

Anne McMillan, incoming president of the Canadian Associ-



Squires: formal training lacking?



ation of Physicists, described Freeman's ideology as "pernicious paternalism" and said his article had done political damage to efforts to promote the role of women in science.

Unfortunately, there was little discussion of the legal aspects of these issues. Could legal action be taken over Freeman's inflammatory statements, which damaged the reputation of all working women? Who can retract an article? Who can withdraw one?

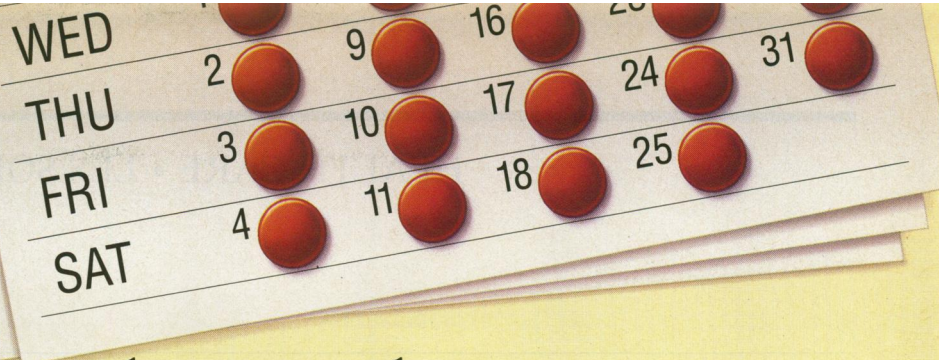
As the symposium ended, it appeared that the Freeman affair was not yet over. The Canadian Association of University Teachers formally urged the NRC to proceed with the supplementary issue. I left the symposium with the sobering realization that we still have a lot of work to do in the area of scientific misconduct.

## Conclusion

Although his academic credibility in the field of sociology is highly suspect, Freeman continues to expound on his views wherever he can find an audience. Franklin has suggested that the Royal Society take a leadership role and develop a "code of behaviour" that would be circulated, revised and adopted by all major research centres. Clear policies and procedures should be developed to delineate the consequences of academic misconduct and make it less tempting to bend the rules. This can occur, however, only if there is a marshalling of political will to reinforce the imperative of academic integrity.

## References

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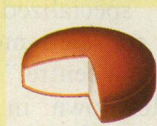


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